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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/569,712	02/24/2006	Makio Oyama	9300112036	7978
7590 Ronald R Santucci Frommer Lawrence & Haug 745 Fifth Avenue New York, NY 10151				
07/25/2008				
EXAMINER				
JACOBS, TODD D				
ART UNIT		PAPER NUMBER		
4159				
MAIL DATE		DELIVERY MODE		
07/25/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/569,712

Applicant(s)

OYAMA ET AL.

Examiner

TODD JACOBS

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

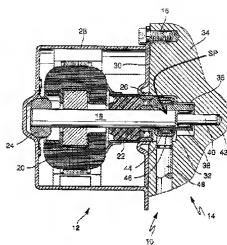
- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE-US)
Paper No(s)/Mail Date 24 Feb 2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

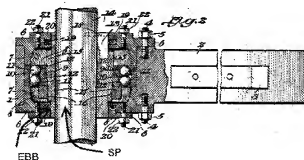
Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
2. Claims are 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alaze et al (US PG-Pub 2002/0090306) in view of Prinz (US Patent 1,162,512).
3. In re claim 1, Alaze et al, with reference to figure 1 below, teaches a motor (12) having an eccentric portion (32) including a rotational shaft (18) which has an axis and supports an armature (20) and a commutator (22) thereon, and an eccentric portion (32) which is eccentrically configured with respect to the axis on the rotational shaft (18), the eccentric portion (32) constituting an output portion for driving an external equipment, wherein the eccentric portion (32) includes a shaft portion (SP) of the rotational shaft (18) which has an axis equal to the axis.
4. However, Alaze et al does not teach the use of an eccentric ball bearing which is joined to the rotational shaft and has another axis which is eccentric respect to the axis of the rotational shaft and the shaft portion.

**Figure 1**

5. Nevertheless, Prinz, with reference to figure 2 below, teaches the use of an eccentric ball bearing (EBB) which is joined to the rotational shaft (14) and has another axis which is eccentric respect to the axis of the rotational shaft (14) and the shaft portion (SP). Using a ball bearing instead of a roller or needle bearing, as the applicant discloses in paragraph 4, will allow for a lower cost, smaller and lighter motor.

**Figure 2**

6. Therefore, it would have been obvious to one having ordinary skill in the art to modify Alaze et al in view of Prinz by replacing the roller bearing with ball bearing in order to create a motor that is less expensive, smaller and lighter.
7. In re claim 2, with reference to figure 2 above, Prinz discloses an eccentric ball bearing (EBB) constituted of an the inner lace (9) which is eccentric with respect to the axis of the

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rotational shaft (14) and the shaft portion (SP), an outer lace (10) which is positioned outside the inner lace (9) and has an axis equal to the axis of the rotational shaft (14) and the shaft portion (SP), and balls (11) which are supported between the outer lace (10) and the inner lace (9).

8. In re claims 3 and 10, with reference to figure 2, Prinz discloses an eccentric ball bearing (EBB) jointed to the rotational shaft (14) in a close fit state.
9. In re claims 4 and 11, with reference to figure 1 above, Alaze et al teaches an armature (20), commutator (22) and eccentric portion (32) arranged on the axis in the order.
10. In re claims 5 and 12, Alaze et al modified by Prinz has been discussed above but fails to disclose a motor with an output of 150 Watts or less.
11. Nevertheless, the motor taught by Alaze et al will inherently provide an unspecified output (Watts).
12. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to restrict the output of the motor to 150 Watts or less, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).
13. In re claim 6, with reference to figure 1 shown above, Alaze et al discloses a pump device (12) including a rotational shaft (18) which has an axis and supports an armature (20) and a commutator (22) thereon, an eccentric portion (32) which is eccentrically configured with respect to the axis on the rotational shaft (18), and a plunger pump (48) which is brought into contact with the eccentric portion (32) and is driven by an eccentric motion of the eccentric portion (32), wherein the eccentric portion (32) includes a shaft portion (SP) of the rotational shaft (18) which has an axis equal to the axis.

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14. However, Alaze et al does not teach an eccentric ball bearing which is joined to the shaft portion of the rotational shaft and has another axis which is eccentric with respect to the axis of the rotational shaft and the shaft portion.
15. Nevertheless, Prinz, with reference to figure 2 above, teaches the use of an eccentric ball bearing (EBB) which is joined to the rotational shaft (14) and has another axis which is eccentric respect to the axis of the rotational shaft (14) and the shaft portion (SP). Using a ball bearing instead of a roller or needle bearing, as the applicant discloses in paragraph 4, will allow for a lower cost, smaller and lighter motor.
16. Therefore, it would have been obvious to one having ordinary skill in the art to modify Alaze et al in view of Prinz by replacing the roller bearing with ball bearing in order to create a pump device that is less expensive, smaller and lighter.
17. In re claim 7, with reference to figure 2 above, Prinz discloses an eccentric ball bearing (EBB) constituted of an the inner lace (9) which is eccentric with respect to the axis of the rotational shaft (14) and the shaft portion (SP), an outer lace (10) which is positioned outside the inner lace (9) and has an axis equal to the axis of the rotational shaft (14) and the shaft portion (SP), and balls (11) which are supported between the outer lace (10) and the inner lace (9).
18. In re claims 8 and 9, with reference to figure 2, Prinz discloses an eccentric ball bearing (EBB) jointed to the rotational shaft (14) in a close fit state.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 5,437,220 to Cheng et al discloses that ball bearings limit engine's power rating. US PGPub 2005/0245182 to Deshpande discloses a miniaturized motor

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using a ball bearing with a power rating of at least 40 Watts. US Patent 6,179,580 to Hubner et al discloses a motor pump arrangement using an eccentric roller bearing. US Patent 5,620,311 discloses a piston pump using an eccentric roller bearing. US Patent 4,831,277 to Christopher discloses varying outputs on a motor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TODD D. JACOBS whose telephone number is (571)270-5708. The examiner can normally be reached on Monday - Friday, 7:30-5:00; Alt. Fridays only.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on 571-272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TODD D. JACOBS/
Examiner, Art Unit 4159

/George Nguyen/
Supervisory Patent Examiner, Art Unit 4159